

February 5, 2004

Ms. Mary J. Headley
U.S. Army Corps of Engineers
ATTN: CENPP-CO-GP
P.O. Box 2946
Portland, OR 97208-2946

Dear Ms. Headley,

The Department of Environmental Quality (DEQ) has reviewed U.S. Army Corps of Engineers (USACE, Corps) Permit Application numbers 1991-00099, and 1992-00812, [Division of State Lands (DSL) # RF1055, and 30895-RP respectively] for maintenance dredging. The applicant, Schnitzer Steel Industries, proposes to remove sedimentary materials from their International Terminals Slip, Berths 1, 2, and 3 (Project # 1991-00099); and Berths 4 and 5 (1992-00812). The project site is located at River Mile (RM) 3.8 and RM 4.1 respectively of the east shore Willamette River in Portland, Multnomah County, Oregon (Section 35, T2N/R1W).

The project involves maintenance dredging to a depth of -42 feet Columbia River Datum (CRD) to maintain safe navigational access and berthing for existing facilities at the International Terminals Slip. Over the life of the 5-year permit and certification the applicant proposes to dredge a total of 228,000 cubic yards (CY) from the facility (127,000 CY and 101,000 CY respectively). Initial dredge volumes are calculated at 138,000CY (77,000CY and 61,000 CY respectively). The remainder will be removed on alternate years from locations as required to maintain berthing depths. All dredged materials will be removed by clamshell dredge and transported by rail, truck, or barge to an approved upland facility.

The International Terminal is located in an area that the US Environmental Protection Agency (EPA) has designated an area of interest under the Superfund program. A letter dated November 2, 2001 from Sally Marquis, Manager, Aquatic Resources Unit, EPA, to Ms. Judy Linton, USACE, outlines protocol for conducting necessary maintenance dredging of facilities within the Superfund Site. It contains a reference to a "Superfund Condition" which has been provided to the Corps for inclusion in all Section 404 permits that they issue for the Portland Harbor area.

This project was determined by the Corps to be covered for ESA consultation under the *Programmatic Biological Opinion and Magnusson-Stevens Act Essential Fish Habitat Consultation for Standard Local Operating Procedures for Endangered Species (SLOPES II) for Certain Regulatory and Operations Activities Carried Out by the Department of Army Permits in Oregon and the North Shore Columbia River* dated July 8, 2003.

The Willamette River is classified as Water Quality Limited under Section 303(d) of the Federal Clean Water Act for the following parameters: Bacteria [Fecal Coliform (Fall/Winter/Spring)]; Toxics: [Tissue-Mercury (Year Round)]; Temperature (Summer); and Biological Criteria (Fish Skeletal Deformities).

The Willamette River supports salmonid spawning, rearing and migration.

Based on information provided by the applicant, DEQ does not anticipate any violations of State Water Quality Standards, including Oregon Administrative Rule (OAR) 340-041-0004, Antidegradation Policy for Surface Waters, provided the conditions which follow are incorporated into the permit.

- 1) **Fish protection/ODFW timing:** All in-water work shall occur within the Oregon Department of Fish and Wildlife's (ODFW) preferred time window, as specified in: *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources, June 2000*. Exceptions to these guidelines must be reviewed and approved by DSL and ODFW.
- 2) **Aquatic life movements:** No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area.
- 3) **Turbidity/Erosion/Monitoring:** A *Water Quality Management Plan* (Plan) is contained in the Appendix to this Section 401 Water Quality Certification (WQC). The Plan and its contents are incorporated into and become a binding condition of the Certification. The Plan outlines: an effects-based turbidity standard; implementation of action level and stop-work level turbidity thresholds; monitoring protocols; and reporting requirements.
- 4) This Section 401 Water Quality Certification will expire concurrent with the USACE Section 404 permit for this project. The applicant will conduct an analysis of sediments, consistent with the Dredged Material Evaluation Framework (DMEF), for sediments they propose to remove during each separate dredging event authorized by this certification.
- 5) All dredged materials and associated water will be placed in barges equipped such that return water to the Willamette River is filtered before discharge.
- 6) No dredging of holes or sumps below maximum depth and subsequent redistribution of sediment by dredging, dragging, or other means is allowed.
- 7) If the dredging operation causes a water quality problem which results in distressed or dying fish, the operator shall immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ and the Oregon Department of Fish and Wildlife (ODFW).
- 8) Petroleum products, chemicals, or other deleterious waste materials shall not be allowed to enter waters of the State.
- 9) Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained in order to prevent spills into State waters.

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- 10) In the event of a discharge of oil, fuel, or other chemicals into State waters, or onto land with a potential to enter State waters, containment and cleanup shall begin immediately and be completed as soon as possible.
- 11) Spills into State waters, or onto land with a potential to enter State waters, shall be reported immediately to the DEQ Spill Response Team [Northwest Region/Portland: (503) 229-5614].
- 12) DEQ reserves the option to modify, amend or revoke this WQC, as necessary, in the event new information indicates that the dredging/disposal activities are having a significant adverse impact on State water quality or critical fish resources.
- 13) A copy of this WQC letter shall be kept on the job site and readily available for reference by the Corps of Engineers, DEQ personnel, the contractor, and other appropriate state and local government inspectors.
- 14) This WQC is invalid if the project is operated in a manner not consistent with the project description contained in the Public Notice for certification.
- 15) DEQ is to have site access upon request.
- 16) If you are dissatisfied with the conditions contained in this certification, you may request a hearing before the Environmental Quality Commission. Such request must be made in writing to the Director of DEQ within 20 days of the mailing of this certification. You may also request written information about alternative dispute resolution services under Oregon Revised Statute 183.502, including mediation or any other collaborative problem-solving process.

The DEQ hereby certifies that this project complies with the Clean Water Act and state water quality standards, if the above conditions are made a part of the Federal permit.

The applicant shall notify the DEQ of any change in the ownership, scope, or construction methods of the project subsequent to certification. If you have any questions, please contact Tom Melville, (503) 229-5845.

Sincerely,

Michael T. Llewelyn, Administrator
Water Quality Division

T:TM.Certhead.91-099&92-812

cc: Applicant
Neil Mullane, DEQ
Kirk Jarvie, DSL

Appendix



International Terminals Water Quality Monitoring Plan

**Prepared for
SCHNITZER STEEL INDUSTRIES, INC**

**Prepared by
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January 9, 2004

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1.0 Introduction

This document presents the Water Quality Monitoring Plan (WQMP) for maintenance dredging of Berths 1 through 3¹, and Berths 4 and 5², of the International Terminals. The site is adjacent to Schnitzer Steel's facility, located in Portland, Oregon. This WQMP has been prepared to ensure compliance with Section 401 of the Clean Water Act and Oregon State Water Quality Standards (OAR 340-41).

Schnitzer Steel Industries, Inc. (Schnitzer) operates the International Terminals and associated berths. Berths within the project area currently support metal recycling operations and are also used to import bulk cargo such as manganese, pig iron, steel coils, and steel slabs.

¹ Corps Project Number 199100099.

² Corps Project Number 199200812.

2.0 Purpose

The WQMP was developed to evaluate water quality and ambient (background) conditions during maintenance dredging in order to ensure that turbidity will remain within acceptable limits outside of the project area and, if necessary, implement corrective actions to mitigate impacts to water quality. The project area includes multiple potential discharge points from the dredge and receiving barge (filtered return water).

This document defines the monitoring procedures that will be followed for water quality monitoring during maintenance dredging within the project area and provides a description of the Best Management Practices (BMPs) that will be implemented to ensure that potential water quality impacts will be minimized.

3.0 Best Management Practices

Maintenance dredging activities will be conducted during the Oregon Department of Fish and Wildlife's (ODFW) agreed upon in-water work windows as follows:

- July 1 through October 31 (any year with valid permits);
- January 1 through January 31, 2004; and
- During other times as needed. Activities will be coordinated with the ODFW and approved by the Oregon Division of State Lands.

In addition, the following BMPs will be used to minimize potential water quality impacts. Activities that occur during maintenance dredging with the potential to impact water quality include dredging, barge dewatering of sediments, and sediment offloading at a transload facility. BMPs that will be implemented during each of these activities to minimize potential water quality impacts are described below.

3.1 Dredging BMPs

Mechanical dredging of sediment has the potential to cause sediment resuspension, which can impact water quality and the aquatic environment. The following BMPs will be implemented to minimize potential impacts to the aquatic environment during dredging operations:

- The construction contractor will ensure that no fuel, garbage, or debris enters the waterway from the dredge, receiving barge, other vessels associated with the project.
- Dredging will be conducted using an environmental clamshell bucket that is closed, vented, and sealed in order to minimize the release and redistribution of dredged material to the water column during dredging. In the event that large woody debris or other obstructions must be removed from the dredge prism, the environmental bucket may be replaced by a bucket suitable for the removal.
- Dredging will be conducted using procedures that will minimize potential impacts to water and sediment quality to the extent practicable. These procedures include the following:
 - Slow dredge bucket deployment and retrieval will be required. The maximum rate of retrieval of the dredge bucket will be 2 feet per second for the first 20 feet off the bottom (where the highest potential for bottom sediment disturbance exists). For the remainder of the bucket ascent, the rate may increase up to a maximum of 4 feet per second.
 - The maximum rate of bucket descent will be 10 feet per second and the descent rate will decrease significantly until stopped at the designated depth of digging penetration.
 - "Sweeping" the post-dredge surface to smooth contours will not be allowed.
 - Stockpiling of material on the bottom will not be allowed (i.e., each time the bucket is closed it will be brought to the surface).

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- The bucket will be required to pause for several seconds at the water surface during retrieval to release excess water.
 - Barges and other floating equipment shall be operated to avoid grounding on the riverbed or banks at any time.

3.2 Sediment Dewatering BMPs

Dredging efforts are required to be accomplished in a manner that minimizes the amount of water added to recovered sediment. In practice this is accomplished by taking full depth cuts whenever possible so that the dredge bucket is completely full of sediment and by pausing as the dredge bucket breaks the water surface during bucket retrieval to allow excess water to drain before sediment is discharged onto the receiving barge.

Dredged sediment placed onto the receiving barge will be allowed to passively dewater within the project area prior to being transferred upland. During barge dewatering activities, the following BMPs will be implemented to minimize potential water quality impacts:

- Return water draining from the receiving barge will be treated by filtering water through straw bales and/or geotextile fabric before returning to the waterway.
- Straw bales and geotextile fabric will be changed regularly to ensure efficient filtration of the return water.
- Barges will not be overfilled to the point where recovered material, including both sediment and water, overflows directly back to the waterway.
- During sediment dewatering, the receiving barge will remain within the project area.
- Return water from the barge will not be allowed to discharge to the waterway outside the project area (e.g., during transport to, or while stationed at the transload facility).

3.3 Dredged Material Offloading BMPs

The following BMPs will be implemented to prevent potential release of sediment at the transload facility and to prevent potential water quality impacts to the waterway:

- The clamshell bucket used during sediment offloading will not be allowed to swing directly over open water. A protective "capture barge", temporary structure, or spill apron will be placed along the swing pathway of the bucket to prevent material from entering the waterway.
- Railcars or containers used to transport dredged sediment will be lined with impermeable liners prior to being filled.
- The transload facility will be swept regularly to prevent potential spreading or release of sediment.
- Sediment will be removed from the outside of equipment and railcars by brushing or sweeping prior to leaving the transload facility.

4.0 Water Quality Monitoring Locations

Compliance water quality monitoring will be conducted at the compliance boundary located downstream of project area. Ambient water quality monitoring will also be conducted upstream from the project area to establish background conditions for the river.

Water quality compliance monitoring will be conducted at one location 150 feet directly downstream of the project area, as shown in Figure 4.1. The water quality monitoring station will be relocated, based on field conditions, in order to intercept any visible turbidity plumes originating from dredging operations.

Monitoring stations will be located in the field using a Differential Global Positioning System (DGPS) on board the sampling vessel.

Ambient water quality monitoring will also be conducted at one station located within the waterway but at least 100 feet outside the influence of dredging operations (upstream from project area), as shown in Figure 4.1. Ambient monitoring stations will also be located in the field based on field conditions.

At each compliance or ambient monitoring location, turbidity will be measured and recorded at three depths:

- Shallow to within one meter of the water surface
- Mid depth
- Deep to within one meter of the mudline

Measurements from all three depths will be recorded separately, but will be averaged to determine the turbidity concentration.

Turbidity thresholds were developed in 2001 by Ellis Ecological Services, Inc. (EES) and adopted by the Port of Portland (2001) for maintenance dredging at Terminal 2 and Terminal 5 on the Willamette River. These threshold levels were approved by the Oregon Department of Environmental Quality (ODEQ), the Oregon Division of State Lands, and the U.S. Army Corps of Engineers and were incorporated as a condition of the Terminal 2 and Terminal 5 maintenance dredging permits. The following threshold levels, developed by EES, are proposed for maintenance dredging at the International Terminals (Berths 1-5).

Table 4.1 Turbidity Threshold Levels for Maintenance Dredging at the International Terminals during the Allowed In-Water Work Periods		
Turbidity Level (NTU)	July 1 – October 31	January 1 – January 31
Action Level (48 – hour average)	35	44
Stop Work Level (8-hour average)	135	144

Compliance monitoring results will be compared to the turbidity thresholds presented in Table 4.1 to evaluate water quality compliance. In the event that natural background turbidity exceeds the action level or stop work level in Table 4.1, then these levels will be 10 percent above background turbidity in accordance with Oregon State water quality standard (OAR 340-041-0445) for turbidity for the Willamette Basin. An exceedance of the threshold occurs only if the average turbidity exceeds the action level for a consecutive 48-hour period or the stop work level for a contiguous 8-hour period and the monitoring supervisor identifies the dredging operation as the cause of elevated turbidity.

5.0 Water Quality Monitoring Schedule

Turbidity will be monitored visually approximately every 4 hours during dredging operations. If visible turbidity observations indicate a potential problem then the *in situ* compliance-monitoring schedule will be adjusted to sample sooner than the next scheduled monitoring event.

In situ compliance monitoring for turbidity will be conducted twice daily for 3 days (intensive monitoring), at the water quality monitoring station located 150 feet downstream from the project area. Compliance monitoring results will be compared to turbidity thresholds (shown in Table 4.1) and ambient concentrations.

If exceedances are measured, another round of compliance monitoring and ambient monitoring will be initiated to verify the exceedance and ODEQ will be notified. If turbidity is consistently found to be acceptable during subsequent "intensive" monitoring, monitoring will return to visual-only monitoring every 4 hours during dredging operations. Apparent visual exceedances will trigger a return to intensive monitoring (twice daily instrument monitoring)_until turbidity exceedances ceases. Visual-only monitoring every 4 hours would then resume.

6.0 Water Quality Monitoring Equipment and Methodology

Turbidity measurements will be collected using a turbidity meter. Prior to each use, the turbidity meter will be calibrated according to the manufacturer's instructions. When the interface screen shows no significant change in the readings, the probe will be considered calibrated and ready for monitoring. Turbidity readings will be measured at each of the three depths specified in Section 4.0. All water quality monitoring field data, as described in Section 8.0, will be documented in the Water Quality Monitoring Report.

To satisfy QA/QC procedures, all field analyses will be conducted in duplicate at least 10 percent of the time. A significant difference (± 3 percent) in the replicate analyses will result in a recalibration of the field instrument. All field analyses will be recorded in logbooks and will be traceable to the specific person conducting the calibration.

7.0 Field Equipment Calibration and Preventative Maintenance

Field instruments will be properly operated, calibrated, and maintained by qualified personnel according to the manufacturer's guidelines and recommendations. Documentation of routine and special preventive maintenance and calibration information will be maintained in the appropriate field or laboratory logbook, and will be available upon request. Each maintenance and calibration logbook entry will include the date and initials of the individual performing the activity.

8.0 Documentation of Water Quality Monitoring Data

Field personnel will prepare daily field water quality monitoring reports detailing monitoring data collection activities and results. These field reports will include the following information:

- Depth of water at monitoring locations.
- Results of water quality monitoring instrumentation.
- Calibration sheets and notes for all daily instrument calibration.
- List of personnel on board vessel.
- Problems encountered that might affect data results.
- Weather at time of water quality monitoring.
- Date and time of exceedances, if any have occurred, and associated corrective actions.
- Station coordinates, including exact time and date of monitoring data documentation.

A Water Quality Monitoring Report will be prepared and submitted to ODEQ after maintenance dredging activities have been completed. This report will include:

- Depth of water at monitoring locations.
- Record of compliance and ambient monitoring results.
- Description of maintenance dredging activities occurring during water quality monitoring activities.
- Description of any monitoring results that exceeded compliance criteria including time and date of the exceedance.
- Description of corrective actions implemented to mitigate water quality impacts.
- Maps indicating water quality monitoring locations.
- Maps showing construction activity locations during water quality monitoring activities.

9.0 Corrective Action and Notification

If compliance monitoring data indicates a turbidity exceedance of the water quality criteria at the compliance boundary, ODEQ will be notified immediately after the exceedance is confirmed and corrective actions will be evaluated. Corrective actions will include confirming that environmental buckets are properly functioning, modifying dredge procedures (such as changing dredge buckets, slowing or otherwise revising dredge rates, etc.) and/or modifying barge-dewatering procedures (e.g., replacing filter materials or increasing settling time). ODEQ will be informed of potential corrective actions.

10.0 References

Oregon Department of Environmental Quality (ODEQ). Statewide Water Quality Management Plan. Beneficial Uses, Policies, Standards and Treatment Criteria for Oregon. OAR 340-041, Water Pollution.

Port of Portland. 2001. Water Quality Management Plan for Maintenance Dredging. August 31.

Ellis Ecological Services, Inc. 2001. Preliminary Assessment of Potential Effects on Salmonids Associated with Turbidity Caused by Dredging in the Columbia and Willamette Rivers. Memorandum prepared for the Port of Portland. August 30.

International Terminals Water Quality Monitoring Plan